

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of leaching low sulphur content ores to release metal values, comprising:

preconditioning finely ground elemental sulphur particles with bacteria, in a biological reactor for a sufficient time that the sulphur becomes wetted and the bacteria attach themselves to the sulphur surfaces, producing acidic bioleach solutions; and

agglomerating the sulphur particles after they have been preconditioned with bacteria throughout a leaching heap with the low sulphur content ores to release metal values.

2. (Previously Presented) The method of claim 1 wherein *Thiobacillus ferrooxidans* is added to the leaching heap when the pH of acidic bioleach solution at the bottom of the heap falls below about 2.4.

3. (Original) The method of claim 1 wherein said finely ground sulphur is produced by rod milling sulphur.

4. (Previously Presented) The method of claim 3 wherein the sulphur is rod milled such that 1.9 kilograms of sulphur rod milled in 1 liter of water for 15 minutes produces a product of approximately 50% of 400 mesh fineness.

5. (Previously Presented) The method of claim 1 further including adding a bacteria nutrient to the finely ground sulphur particles during their preconditioning with bacteria.

6. (Canceled)

7. (Previously Presented) The method of claim 1 wherein the preconditioning of the finely ground sulphur particles with bacteria is conducted for 12-48 hours.

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8. (Canceled)

9. (Previously Presented) The method of claim 1 further including adding acid bioleach solution produced during preconditioning to a leach solution reservoir associated with the leach heap to partially satisfy the acidic demand of the ore.

10. (Previously Presented) The method of claim 2 including controlling the pH in the heap in the range of 1.8-2.4 so that the *Thiobacillus ferrooxidans* can rapidly oxidize any metal sulphides present in the ore.

11. (Previously Presented) The method of claim 1 wherein the bacteria comprises *Thiobacillus thiooxidans*.

12. (Previously Presented) The method of claim 1 in which the sulphur particles are preconditioned with bacteria in a biological reactor for at least 12 hours.

13. (Currently Amended) The method of Claim 1 in which the [[acid]] acidic bioleach solutions produced in the reactor are added to the leaching heap.

14. (Currently Amended) A method of leaching low sulphur content ores to release metal values, comprising:

preconditioning finely ground elemental sulphur particles with bacteria, comprising *Thiobacillus thiooxidans*, in a biological reactor for at least 12 hours so that the ~~hydrophobic~~ sulphur becomes wetted and the bacteria attach themselves to the sulphur surfaces, producing acidic bioleach solutions; agglomerating the preconditioned sulphur particles throughout a leaching heap with the low sulphur content ores to release metal values; and

adding the acidic bioleach solution to the leaching heap to partially satisfy the acid demand of the ore.